

**WEST**

Generate Collection

**Search Results - Record(s) 51 through 69 of 69 returned.**☐ 51. Document ID: US 5401764 A

L2: Entry 51 of 69

File: USPT

Mar 28, 1995

US-PAT-NO: 5401764

DOCUMENT-IDENTIFIER: US 5401764 A

TITLE: Benzimidazole derivative compositions and medical use thereof

DATE-ISSUED: March 28, 1995

## INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Naka; Takehiko	Kobe	N/A	N/A	JPX
Nishikawa; Kohei	Kyoto	N/A	N/A	JPX

US-CL-CURRENT: 514/381; 548/253

## ABSTRACT:

1-Acetoxyethyl  
2-ethoxy-1-[[2'-(1H-tetrazol-5-yl)biphenyl-4-yl]methyl]benzimidazole-7-carboxylate or a pharmaceutically acceptable salt thereof has potent angiotensin II antagonistic activity and antihypertensive activity, thus being useful as therapeutic agents for treating circulatory system diseases such as hypertensive diseases, heart diseases (e.g. hypercardia, heart failure, cardiac infarction, etc.), strokes, cerebral apoplexy, nephritis, etc.

3 Claims, 0 Drawing figures Exemplary Claim Number: 3

Full	Title	Citation	Front	Review	Classification	Date	Reference	Claims	KVMC	Draw Desc	Image
------	-------	----------	-------	--------	----------------	------	-----------	--------	------	-----------	-------

☐ 52. Document ID: US 5389641 A

L2: Entry 52 of 69

File: USPT

Feb 14, 1995

US-PAT-NO: 5389641  
DOCUMENT-IDENTIFIER: US 5389641 A

TITLE: Fused heterocyclic compounds, having angiotensin II antagonistic activity

DATE-ISSUED: February 14, 1995

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Naka; Takehiko	Hyogo	N/A	N/A	JPX
Inada; Yoshiyuki	Hyogo	N/A	N/A	JPX

US-CL-CURRENT: 514/303; 514/243, 514/259, 514/262, 514/284, 514/291, 514/343,  
514/381, 514/80, 546/118, 546/268.4, 546/272.4, 546/273.1, 546/273.4, 546/277.4,  
546/80, 548/253, 548/262.4

ABSTRACT:

Fused heterocyclic compounds of the formula (I): ##STR1## wherein R.sup.1 is an optionally substituted hydrocarbon residue which may be attached through a hetero atom; R.sup.2 is a group capable of forming an anion or a group convertible thereinto; R.sup.3 is an optionally substituted aromatic hydrocarbon or heterocyclic residue which contains at least one hetero atom; X is a direct bond or a spacer having an atomic length of two or less between the R.sup.3 group and the ring W group; W is an optionally substituted aromatic hydrocarbon or heterocyclic residue which contains at least one hereto atom; a, c and d are independently selected from the group consisting of one or two optionally substituted carbon atoms and one or two optionally substituted hetero atoms; b and e are independently selected from the group consisting of one optionally substituted carbon atom and one optionally substituted nitrogen atom wherein one of b or e must be nitrogen; the dotted line is a bond to form one double bond; n is an integer of 1 or 2 and when a, which is an optionally substituted carbon atom, is taken together with R.sup.1, the following group: ##STR2## may form a ring group; provided that when ##STR3## is a benzimidazole, thieno[3,4-d]imidazole, or thieno[2,3-d]imidazole ring, at least one of the group: ##STR4## and R.sup.3 is an optionally substituted heterocyclic residue; and the pharmaceutically acceptable salts thereof, have potent angiotensin II antagonistic activity and antihypertensive activity, thus being useful as therapeutic agents for treating circulatory system diseases such as hypertensive diseases, heart diseases (e.g. hypercardia, heart failure, cardiac infarction, etc.), strokes, cerebral apoplexy, nephritis, etc.

14 Claims, 0 Drawing figures Exemplary Claim Number: 1

Full	Title	Citation	Front	Review	Classification	Date	Reference	Claims	KUMC	Draw Desc	Image
------	-------	----------	-------	--------	----------------	------	-----------	--------	------	-----------	-------

☐ 53. Document ID: US 5354766 A

L2: Entry 53 of 69

File: USPT

Oct 11, 1994

US-PAT-NO: 5354766

DOCUMENT-IDENTIFIER: US 5354766 A

TITLE: Compound and salts thereof which antagonize angiotensin II

DATE-ISSUED: October 11, 1994

## INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Naka; Takehiko	Kobe	N/A	N/A	JPX
Inada; Yoshiyuki	Kawanishi	N/A	N/A	JPX

US-CL-CURRENT: 514/364; 548/132

3 Claims, 0 Drawing figures Exemplary Claim Number: 1

Full	Title	Citation	Front	Review	Classification	Date	Reference	Claims	KWC	Draw Desc	Image
------	-------	----------	-------	--------	----------------	------	-----------	--------	-----	-----------	-------

☐ 54. Document ID: US 5270322 A

L2: Entry 54 of 69

File: USPT

Dec 14, 1993

US-PAT-NO: 5270322

DOCUMENT-IDENTIFIER: US 5270322 A

TITLE: Imidazo[1,2-a]pyridines, pharmaceutical compositions containing these compounds and processes for preparing them

DATE-ISSUED: December 14, 1993

## INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Ries; Uwe	Biberach	N/A	N/A	DEX
Hauel; Norbert	Schemmerhofen	N/A	N/A	DEX
Narr; Berthold	Biberach	N/A	N/A	DEX
van Meel; Jacques	Mittelbiberach	N/A	N/A	DEX
Wienen; Wolfgang	Apfingen	N/A	N/A	DEX
Entzeroth; Michael	Warthausen	N/A	N/A	DEX

US-CL-CURRENT: 514/300; 514/80, 544/236, 544/277, 544/350, 546/118, 546/121, 546/23

## ABSTRACT:

Imidazo[1,2-a]pyridines of the formula ##STR1## wherein R.sub.a to R.sub.e are as defined herein, the enantiomers and the salts thereof, which are useful as angiotensin antagonists and for treating conditions treatable with angiotensin antagonists.

12 Claims, 0 Drawing figures Exemplary Claim Number: 1

Full	Title	Citation	Front	Review	Classification	Date	Reference	Claims	KWC	Draw Desc	Image
------	-------	----------	-------	--------	----------------	------	-----------	--------	-----	-----------	-------

☐ 55. Document ID: US 5250554 A

L2: Entry 55 of 69

File: USPT

Oct 5, 1993

US-PAT-NO: 5250554

DOCUMENT-IDENTIFIER: US 5250554 A

TITLE: Benzimidazole derivatives useful as angiotensin II inhibitors

DATE-ISSUED: October 5, 1993

## INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Naka; Takehiko	Kobe	N/A	N/A	JPX
Nishikawa; Kohei	Kyoto	N/A	N/A	JPX

US-CL-CURRENT: 514/381; 514/394, 548/252, 548/253, 548/309.4

## ABSTRACT:

Novel imidazole derivatives of the formula (I): ##STR1## wherein R.sup.1 is an optionally substituted alkyl group, R.sup.2 and R.sup.3 are independently a group capable of forming an anion or a group which can be changed thereinto, ring A is a benzene ring optionally having, besides the group shown by R.sup.2, further substituents, and X shows linkage of phenylene group and phenyl group directly or through a spacer whose atomic length is not more than 2 and a salt thereof, show antagonistic actions to angiotensin II, thus being useful as therapeutics for cardiovascular diseases.

12 Claims, 0 Drawing figures Exemplary Claim Number: 1

Full	Title	Citation	Front	Review	Classification	Date	Reference	Claims	KWIC	Draw Desc	Image
------	-------	----------	-------	--------	----------------	------	-----------	--------	------	-----------	-------

☐ 56. Document ID: US 5250548 A

L2: Entry 56 of 69

File: USPT

Oct 5, 1993

US-PAT-NO: 5250548  
DOCUMENT-IDENTIFIER: US 5250548 A

TITLE: Angiotensin II receptor antagonists

DATE-ISSUED: October 5, 1993

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Winn; Martin	Deerfield	IL	N/A	N/A
De; Biswanath	Buffalo Grove	IL	N/A	N/A
Zydowsky; Thomas M.	Waukegan	IL	N/A	N/A
Kerkman; Daniel J.	Lake Villa	IL	N/A	N/A
DeBernardis; John F.	Lindenhurst	IL	N/A	N/A
Rosenberg; Saul H.	Libertyville	IL	N/A	N/A
Shiosaki; Kazumi	Libertyville	IL	N/A	N/A
Basha; Fatima Z.	Lake Forest	IL	N/A	N/A
Tasker; Andrew S.	Lindenhurst	IL	N/A	N/A
von Geldern; Thomas W.	Richmond	IL	N/A	N/A
Kester; Jeffrey A.	Deerfield	IL	N/A	N/A
Boyd; Steven	Mundelein	IL	N/A	N/A
Yamamoto; Diane M.	Gurnee	IL	N/A	N/A
Fung; Anthony K. L.	Gurnee	IL	N/A	N/A

US-CL-CURRENT: 514/340; 546/268.4

ABSTRACT:

Compounds are disclosed having the formula: ##STR1## The compounds of the invention are angiotensin II receptor antagonists.

16 Claims, 0 Drawing figures Exemplary Claim Number: 1

Full	Title	Citation	Front	Review	Classification	Date	Reference	Claims	KWIC	Draw Desc	Image
------	-------	----------	-------	--------	----------------	------	-----------	--------	------	-----------	-------

☐ 57. Document ID: US 5243054 A

L2: Entry 57 of 69

File: USPT

Sep 7, 1993

US-PAT-NO: 5243054  
DOCUMENT-IDENTIFIER: US 5243054 A

TITLE: Compound which is angiotensin II antagonist

DATE-ISSUED: September 7, 1993

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Naka; Takehiko	Kobe	N/A	N/A	JPX
Inada; Yoshiyuki	Kawanishi	N/A	N/A	JPX

US-CL-CURRENT: 548/132; 546/118, 548/129

1 Claims, 0 Drawing figures Exemplary Claim Number: 1

Full	Title	Citation	Front	Review	Classification	Date	Reference	Claims	KWIC	Draw Desc	Image
------	-------	----------	-------	--------	----------------	------	-----------	--------	------	-----------	-------

☐ 58. Document ID: US 5196444 A

L2: Entry 58 of 69

File: USPT

Mar 23, 1993

US-PAT-NO: 5196444

DOCUMENT-IDENTIFIER: US 5196444 A

TITLE: 1-(cyclohexyloxycarbonyloxy)ethyl  
2-ethoxy-1-[[2'-(1H-tetrazol-5-yl)biphenyl-4-yl]methyl]benzimidazole-7-carboxylate and compositions and methods of pharmaceutical use thereof

DATE-ISSUED: March 23, 1993

## INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Naka; Takehiko	Kobe	N/A	N/A	JPX
Nishikawa; Kohei	Kyoto	N/A	N/A	JPX
Kato; Takeshi	Higashiosaka	N/A	N/A	JPX

US-CL-CURRENT: 514/381; 548/252, 548/253

## ABSTRACT:

1-(Cyclohexyloxycarbonyloxy)ethyl  
2-ethoxy-1-[[2'-(1H-tetrazol-5-yl)biphenyl-4-yl]methyl]benzimidazole-7-carboxylate or a pharmaceutically acceptable salt thereof has potent angiotensin II antihypertensive activity, thus being useful as therapeutic agents for treating circulatory system diseases such as hypertensive diseases, heart diseases (e.g. hypercardia, heart failure, cardiac infarction, etc.), strokes, cerebral apoplexy, nephritis, etc.

9 Claims, 3 Drawing figures Exemplary Claim Number: 1  
Number of Drawing Sheets: 3

Full	Title	Citation	Front	Review	Classification	Date	Reference	Claims	KWIC	Draw Desc	Image
------	-------	----------	-------	--------	----------------	------	-----------	--------	------	-----------	-------

☐ 59. Document ID: US 5128356 A

L2: Entry 59 of 69

File: USPT

Jul 7, 1992

US-PAT-NO: 5128356

DOCUMENT-IDENTIFIER: US 5128356 A

TITLE: Benzimidazole derivatives and their use

DATE-ISSUED: July 7, 1992

## INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Naka; Takehiko	Kobe	N/A	N/A	JPX
Nishikawa; Kohei	Kyoto	N/A	N/A	JPX

US-CL-CURRENT: 514/381; 548/253

## ABSTRACT:

Novel imidazole derivatives of the formula (I): ##STR1## wherein R.sup.1 is an optionally substituted alkyl group, R.sup.2 and R.sup.3 are independently a group capable of forming an anion or a group which can be changed thereinto, ring A is a benzene ring optionally having, besides the group shown by R.sup.2, further substituents, and X shows linkage of phenylene group and phenyl group directly or through a spacer whose atomic length is not more than 2 and a salt thereof, show antagonistic actions to angiotensin II, thus being useful as therapeutics for cardiovascular diseases.

8 Claims, 0 Drawing figures Exemplary Claim Number: 1

Full	Title	Citation	Front	Review	Classification	Date	Reference	Claims	KWIC	Draw Desc	Image
------	-------	----------	-------	--------	----------------	------	-----------	--------	------	-----------	-------

☐ 60. Document ID: JP 07002667 A

L2: Entry 60 of 69

File: JPAB

Jan 6, 1995

PUB-NO: JP407002667A  
DOCUMENT-IDENTIFIER: JP 07002667 A  
TITLE: AGENT FOR PREVENTION AND TREATMENT OF RENAL DISEASE

PUBN-DATE: January 6, 1995

INVENTOR-INFORMATION:

NAME

COUNTRY

NISHIKAWA, KOHEI

SHIBOUDA, YUMIKO

KUBO, KEIJI

US-CL-CURRENT: 280/801.1

INT-CL (IPC): A61K 31/415; A61K 31/415; A61K 31/415; C07D 403/10; C07D 413/10;  
C07D 417/10

ABSTRACT:

PURPOSE: To obtain an agent for the prevention or treatment of diabetic nephropathy or glomerular nephritis by using a compound having angiotensin II antagonistic action as an active component.

CONSTITUTION: A compound of formula (R1 is H or hydrocarbon residue; R2 is carboxyl; R3 is anion-forming group, etc.; X shows the bonded state of phenylene and phenyl; (n) is 1 or 2; ring A is R2 or benzene ring; Y is bond, O, S(O)n, etc.; (m) is 0-2) or its salt is used as an active component. The compound of formula is e.g. ( $\pm$ )-1-(cyclohexyloxycarbonyloxy)ethyl-2-ethoxy-1-[[2'-(1 H-tetrazol-5-yl)biphenyl-4-yl]methyl]-1H-benzimidazole-7-carboxylate. The compound of formula has low toxicity and is safely usable. The daily dose of the compound is 0.01-50 mg for parenteral administration and 0.01-150 mg for peroral administration.

COPYRIGHT: (C)1995,JPO

Full	Title	Citation	Front	Review	Classification	Date	Reference	Claims	KWIC	Draw Desc	Clip Img	Image
------	-------	----------	-------	--------	----------------	------	-----------	--------	------	-----------	----------	-------

☐ 61. Document ID: JP 06305965 A

L2: Entry 61 of 69

File: JPAB

Nov 1, 1994



PUB-NO: JP406305965A  
DOCUMENT-IDENTIFIER: JP 06305965 A  
TITLE: PREVENTING OR THERAPEUTIC AGENT FOR VIRAL DISEASE

PUBN-DATE: November 1, 1994

INVENTOR-INFORMATION:

NAME

COUNTRY

MATSUMORI, AKIRA

INT-CL (IPC): A61K 31/415; A61K 31/435; C07D 235/06; C07D 235/26; C07D 235/28;  
C07D 403/10; C07D 413/10; C07D 417/10; C07D 495/04

ABSTRACT:

PURPOSE: To obtain the therapeutic agent, containing a compound having antagonistic action on angiotensin II as an active ingredient without any toxicity, excellent in therapeutic effects and useful for viral hepatitis, influenza, etc.

CONSTITUTION: The objective preventing or therapeutic agent contains a compound, expressed by the formula [ring W is (substituted)nitrogen-containing heterocyclic ring residue; R3 is group, etc., capable of forming anion; X is bond binding phenylene directly or through a spacer of &le;2 atomic chains to phenyl; (n) is 1 or 2] and having antagonistic action on angiotensin II such as  
(±)-1-(cyclohexyloxycarbonyloxy)ethyl  
2-ethoxy-1-[[2'-(1H-tetrazol-5-yl)biphenyl-4-yl)methyl]-1H-benzimidazole-7-carboxylate as an active ingredient. Furthermore, the daily dose of the active ingredient is preferably within the range of 0.5-20mg for an adult in the case of oral administration.

COPYRIGHT: (C)1994,JPO

Full	Title	Citation	Front	Review	Classification	Date	Reference	Claims	KWC	Drawl Desc	Clip Img	Image
------	-------	----------	-------	--------	----------------	------	-----------	--------	-----	------------	----------	-------

☐ 62. Document ID: EP 720982 A1

L2: Entry 62 of 69

File: EPAB

Jul 10, 1996

PUB-NO: EP000720982A1

DOCUMENT-IDENTIFIER: EP 720982 A1

TITLE: Benzimidazole derivatives, their production and use and use as angiotensin II antagonists

PUBN-DATE: July 10, 1996

## INVENTOR-INFORMATION:

NAME	COUNTRY
NAKA, TAKEHIKO	JP
NISHIKAWA, KOHEI	JP
KATO, TAKESHI	JP

INT-CL (IPC): C07D 235/26; A61K 31/415; C07D 235/28; C07D 235/30; C07D 403/10  
EUR-CL (EPC): C07D235/26; C07D235/28, C07D235/30 , C07D403/10 , C07D405/14

## ABSTRACT:

Benzimidazole derivatives of the formula (I): wherein the ring A is a benzene ring which may optionally contain substitution in addition to the R' group and R<1>, R<2>, X, R', Y and n are defined as in claim 1; with the exclusion of 2-ethoxy-1- 2'-(1H-tetrazol-5-yl)biphenyl-4-yl methyl -benzimidazole-7-carboxylic acid and 1-(cyclohexyloxy-carbonyloxy)ethyl 2-ethoxy-1- 2'-(1H-tetrazol-5-yl)biphenyl-4-yl methyl benzimidazole-7-carboxylate; and the pharmaceutically acceptable salts thereof, have potent angiotensin @ @ antagonistic activity and antihypertensive activity, thus being useful as therapeutic agents for treating circulatory system diseases such as hypertensive diseases, heart diseases (e.g. hypercardia, heart failure, cardiac infarction, etc.), strokes, cerebral apoplexy, nephritis, etc.

Full	Title	Citation	Front	Review	Classification	Date	Reference	Claims	KWMC	Draw Desc	Image
------	-------	----------	-------	--------	----------------	------	-----------	--------	------	-----------	-------

☐ 63. Document ID: AU 200041434 A, WO 200066161 A1, JP 2001010975 A

L2: Entry 63 of 69

File: DWPI

Nov 17, 2000

DERWENT-ACC-NO: 2001-015915  
DERWENT-WEEK: 200111  
COPYRIGHT 2001 DERWENT INFORMATION LTD

TITLE: Use of angiotensin II antagonists for treating or preventing simplex retinopathy or preproliferative retinopathy

INVENTOR: IKEDA, H; NAGISA, Y ; NAKAGAWA, S

PRIORITY-DATA: 1999JP-0121498 (April 28, 1999)

PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
AU 200041434 A	November 17, 2000	N/A	000	A61K045/00
WO 200066161 A1	November 9, 2000	J	042	A61K045/00
JP 2001010975 A	January 16, 2001	N/A	016	A61K045/00

INT-CL (IPC): A61K 31/41; A61K 31/4178; A61K 31/4184; A61K 31/4245; A61K 45/00; A61P 27/02

ABSTRACTED-PUB-NO: WO 200066161A  
BASIC-ABSTRACT:

NOVELTY - Use of an angiotensin II antagonist or its prodrug or salt is claimed for treating or preventing simplex retinopathy or preproliferative retinopathy.

ACTIVITY - Ophthalmological. In tests on diabetic rats (+/-)-1-(cyclohexyloxycarbonyloxy)ethyl-2-ethoxy-1-((2'-(1H-tetrazol-5-yl)-biphenyl-4-yl)methyl)-1H-benzimidazole-7-carboxylate at 3 mg/day orally significantly (p less than 0.01) reduced retinal VEGF mRNA weight ratio compared to a control.

MECHANISM OF ACTION - Angiotensin-II antagonist.

USE - As angiotensin II antagonists for treating or preventing simplex retinopathy or preproliferative retinopathy

Full	Title	Citation	Front	Review	Classification	Date	Reference	Claims	KWIC	Draw Desc	Image
------	-------	----------	-------	--------	----------------	------	-----------	--------	------	-----------	-------

☐ 64. Document ID: US 5958961 A

L2: Entry 64 of 69

File: DWPI

Sep 28, 1999

DERWENT-ACC-NO: 1999-570770  
DERWENT-WEEK: 199948  
COPYRIGHT 2001 DERWENT INFORMATION LTD

TITLE: Composition for treating angiotensin II mediated diseases, particularly hypertension, comprises heterocyclic compound and hydrochlorothiazide or manidipine hydrochloride

INVENTOR: INADA, Y; KUBO, K

PRIORITY-DATA: 1993JP-0133524 (June 7, 1993)

PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
US 5958961 A	September 28, 1999	N/A	014	A61K031/415

INT-CL (IPC): A61K 31/41; A61K 31/415

ABSTRACTED-PUB-NO: US 5958961A  
BASIC-ABSTRACT:

NOVELTY - Composition for the treatment of angiotensin II mediated diseases comprising a benzimidazole derivative (I) and hydrochlorothiazide or manidipine hydrochloride, is new.

DETAILED DESCRIPTION - Composition for the treatment of angiotensin II mediated diseases comprises a benzimidazole derivative of formula (I) or its salt in combination with hydrochlorothiazide or manidipine hydrochloride.

R1 = H or optionally substituted hydrocarbon;

R2 = optionally esterified carboxyl group;

R3 = R3' or a group which is convertible to R3';

R3' = a group which is capable of forming an anion;

X = covalent bond or a spacer having a linear chain of 1-2 atoms;

Q1 = CH2 or CH2CH2;

A1, A2 = optional substituents;

Y' = O, S(O)m, N(R4) or a bond;

m = 0-2; and

R4 = H or optionally substituted alkyl.

ACTIVITY - Hypotensive; cardiant; antidiabetic; nephrotropic; antiarteriosclerotic; dermatological; nootropic; neuroprotective; antidepressant; tranquilizer; neuroleptic; ophthalmological.

Male spontaneously hypertensive rats were given ( plus or minus )-1-(cyclohexyloxycarbonyloxy)ethyl-2-ethoxy-1-((2'-(1H-tetrazol-5-yl)biphenyl-4-yl)methyl)-1H-benzimidazole-7-carboxylate (I') (0.1 or 1 mg/kg orally) and/or hydrochlorothiazide (HCT; 10 mg/kg orally) once a day for 2 weeks. On the days 1, 7 and 14 at 5 hours after administration, blood pressure was measured. Blood pressure (mmHg) before administration and on days 1, 7 and 14 was 186, 178, 177 and 181 respectively for HCT, 183, 161, 155 and 162 186, 153, 138 and 135 respectively for 1 mg/kg (I'), 186, 137, 129 and 139 respectively for HCT + 0.1 mg/kg (I'), and 187, 132, 106 and 108 respectively for HCT + 1 mg/kg (I'). These results show that HCT alone had no antihypertensive activity, (I') produced dose dependent antihypertensive activity and when used in combination HCT enhanced the activity of (I').

MECHANISM OF ACTION - Angiotensin II antagonist; calcium antagonist; diuretic.

USE - The composition is used for the treatment of hypertension (claimed), cardiac insufficiency, ischaemic peripheral circulation disturbances, myocardial ischaemia, vein insufficiency, progressive cardiac insufficiency after myocardial infarction, diabetic nephritides, nephritis, arteriosclerosis, hyperaldosteronism, dermatosclerosis, glomerulosclerosis, renal insufficiency, diseases of central nervous system, sensory disturbances including Alzheimer's disease, deficiency of memory, depression, amnesia and senile dementia, anxiety neuroses, catatonia or indisposition, glaucoma and intraocular high tension.

ADVANTAGE - The composition is less toxic than prior art compositions.

Full	Title	Citation	Front	Review	Classification	Date	Reference	Claims	KWIC	Draw Desc	Clip Img	Image
------	-------	----------	-------	--------	----------------	------	-----------	--------	------	-----------	----------	-------

L2: Entry 65 of 69

File: DWPI

Feb 24, 1998

DERWENT-ACC-NO: 1998-168454  
DERWENT-WEEK: 199948  
COPYRIGHT 2001 DERWENT INFORMATION LTD

TITLE: Composition for treatment of angiotensin II mediated diseases, especially hypertension - comprises benzimidazole derivative and hydrochlorothiazide or manidipine hydrochloride

INVENTOR: INADA, Y; KUBO, K

PRIORITY-DATA: 1993JP-0133524 (June 7, 1993)

## PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
US 5721263 A	February 24, 1998	N/A	012	A61K031/41

INT-CL (IPC): A61K 31/41; A61K 31/50; A61K 31/54

ABSTRACTED-PUB-NO: US 5721263A

## BASIC-ABSTRACT:

A pharmaceutical composition comprises:- (a) ( plus or minus ) - (1-cyclohexyloxycarbonyloxy) ethyl-2-ethoxy-1- [ [ 2' -(1H -tetrazol-5- yl) biphenyl -4-yl]methyl]-1H-benzimidazole-7-carboxylate (I) or 2- ethoxy-1-[ [ 2' - (2,5-dihydro-5-oxo-1,2,4-oxadiazol-3-yl) biphenyl - 4 -yl] methyl]-1H-benzimidazole-7-carboxylic acid (II) or their salts; and (b) either hydrochlorothiazide (III) or manidipine hydrochloride (IV).

USE - The composition is useful in the treatment of hypertension (claimed).

ADVANTAGE - By using the composition in preference to a single component medicine, therapeutic effects are seen that are not noticed from single compounds, and undesirable side effects are reduced.

Full	Title	Citation	Front	Review	Classification	Date	Reference	Claims	KWC	Draw	Desc	Image
------	-------	----------	-------	--------	----------------	------	-----------	--------	-----	------	------	-------

☐ 66. Document ID: US 5639773 A, EP 631780 A1, WO 9501176 A1, AU 9466146 A, NO 9402472 A, CA 2127202 A, AU 9470833 A, BR 9402618 A, FI 9403182 A, SK 9400789 A3, CZ 9401549 A3, HU 69713 T, CN 1105239 A

L2: Entry 66 of 69

File: DWPI

Jun 17, 1997

DERWENT-ACC-NO: 1995-037553  
DERWENT-WEEK: 199730  
COPYRIGHT 2001 DERWENT INFORMATION LTD

TITLE: Use of 1-Biphenylalkyl-benzimidazole-7-carboxylic acid derivs. - in treatment of ocular hypertension and glaucoma.

INVENTOR: DEGUCHI, T; KUBO, K ; OGAWA, T ; HOFFMAN, J ; VELEZ, J ; KEIJI, K ; TAKAAKI, D ; TAKAHIRO, O

PRIORITY-DATA: 1993JP-0164847 (July 2, 1993)

PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
US 5639773 A	June 17, 1997	N/A	013	A61K031/41
EP 631780 A1	January 4, 1995	E	027	A61K031/415
WO 9501176 A1	January 12, 1995	E	048	N/A
AU 9466146 A	January 12, 1995	N/A	000	A61K031/415
NO 9402472 A	January 3, 1995	N/A	000	A61K031/415
CA 2127202 A	January 3, 1995	N/A	000	A61K031/41
AU 9470833 A	January 24, 1995	N/A	000	A61K031/415
BR 9402618 A	April 4, 1995	N/A	000	C07D235/06
FI 9403182 A	April 4, 1995	N/A	000	A61K031/415
SK 9400789 A3	July 11, 1995	N/A	000	A61K031/415
CZ 9401549 A3	September 13, 1995	N/A	000	A61K031/41
HU 69713 T	September 28, 1995	N/A	000	A61K031/415
CN 1105239 A	July 19, 1995	N/A	000	C07D417/06

INT-CL (IPC): A61K 9/06; A61K 31/395; A61K 31/41; A61K 31/415; A61K 31/445; A61K 31/535; A61K 31/675; A61K 31/695; C07D 235/04; C07D 235/06; C07D 403/06; C07D 403/10; C07D 413/06; C07D 413/10; C07D 417/06; C07D 417/10

ABSTRACTED-PUB-NO: EP 631780A  
BASIC-ABSTRACT:

Use of a 1-biphenylalkyl-benzimidazole-7-carboxylic acid deriv. or its salts, for mfr. of an ocular hypotensive or anti-glaucomal agent, is new: R1 = H or hydrocarbyl (opt. substd. and opt. bound via a hetero atom); R2 = H or hydrocarbyl (opt. substd.); R3 = a gp. capable of forming an anion, or changing into one; X = a bond, or a spacer with 1 or 2 atoms chain length; n = 1 or 2; and ring A opt. has 1 or 2 substituents in addn. to COOR2.

USE - (I) are angiotensin II inhibitors with low toxicity, and are of use in the prophylaxis and treatment of ocular hypertension or diseases caused by it, including glaucoma and low tension glaucoma.

ADVANTAGE - (I) are of general application for glaucoma, not limited to the open-angle variety, and are without the side effects of prior art cpds. e.g. ocular irritation and dryness, or conjunctival hyperaemia.  
ABSTRACTED-PUB-NO:

US 5639773A EQUIVALENT-ABSTRACTS:

Method for the treatment of glaucoma in a warm-blooded animal comprises administering an amount of (+ at least )-1-(cyclohexyloxycarbonyloxy)ethyl 2-ethoxy-1-[[2'-(1H-tetrazol-5-yl)biphenyl-4-yl]methyl]-1H-benzimidazole-7-carboxylate or a salt of it.

Full	Title	Citation	Front	Review	Classification	Date	Reference	Claims	KWC	Draw Desc	Image
------	-------	----------	-------	--------	----------------	------	-----------	--------	-----	-----------	-------

67. Document ID: ES 2149226 T3, EP 622077 A1, CA 2121871 A, JP 07002667 A, AU 9475815 A, NO 9404006 A, FI 9404833 A, AU 677702 B, US 5719173 A, BR 1100756 A3, US 5889036 A, US 6040324 A, NO 307494 B1, EP 622077 B1, DE 69425085 E

L2: Entry 67 of 69

File: DWPI

Nov 1, 2000

DERWENT-ACC-NO: 1994-359521

DERWENT-WEEK: 200062

COPYRIGHT 2001 DERWENT INFORMATION LTD

TITLE: Use of benzimidazole derivs. as angiotensin II antagonists - for prophylaxis or treatment of diabetic neuropathy and glomerulonephritis

INVENTOR: KUBO, K; NISHIKAWA, K ; SHIBOUTA, Y

PRIORITY-DATA: 1993JP-0095942 (April 22, 1993), 1994AU-0075815 (October 13, 1994), 1994NO-0004006 (October 21, 1994), 1994FI-0004833 (October 14, 1994)

## PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
ES 2149226 T3	November 1, 2000	N/A	000	A61K031/415
EP 622077 A1	November 2, 1994	E	019	A61K031/415
CA 2121871 A	October 23, 1994	N/A	000	A61K031/415
JP 07002667 A	January 6, 1995	N/A	015	A61K031/415
AU 9475815 A	April 26, 1996	N/A	000	A61K031/415
NO 9404006 A	April 22, 1996	N/A	000	A61K031/415
FI 9404833 A	April 15, 1996	N/A	000	A61K031/415
AU 677702 B	May 1, 1997	N/A	000	A61K031/415
US 5719173 A	February 17, 1998	N/A	009	A61K031/41
BR 1100756 A3	May 5, 1998	N/A	000	C07D235/24
US 5889036 A	March 30, 1999	N/A	000	A61K031/41
US 6040324 A	March 21, 2000	N/A	000	A61K031/41
NO 307494 B1	April 17, 2000	N/A	000	A61K031/415
EP 622077 B1	July 5, 2000	E	000	A61K031/415
DE 69425085 E	August 10, 2000	N/A	000	A61K031/415

INT-CL (IPC): A61K 31/41; A61K 31/415; C07D 235/04; C07D 235/24; C07D 403/10; C07D 413/10; C07D 417/10

ABSTRACTED-PUB-NO: EP 622077A

## BASIC-ABSTRACT:

Use of benzimidazole derivs. of formula (I), and their salts, for the prophylaxis or treatment of diabetic neuropathy or glomerulonephritis, is new: R1 = H or opt. substd. hydrocarbyl; R2 = opt. esterified carboxyl; R3 = a gp. actually or potentially capable of forming an anion; X = direct bond or 1 or 2 atom chain; n = 1 or 2; ring A = benzene ring opt. substd. in addn. to R2; Y = bond, -O-, -S(O)m- or -N(R4)-; m = 0 - 2; R4 = H or opt. substd. alkyl.

(I) are pref., e.g. (plus or minus)-1-(cyclohexyloxycarbonyloxy)ethyl-2-ethoxy-1-((2'-(1H-tetrazol-5-yl)biphenyl-4-yl)methyl)-1H-benzimidazole-7-carboxylate (Ia), and pivaloyloxymethyl-2-ethoxy-1-((2'-(1H-tetrazol-5-yl)biphenyl-4-yl)methyl)-1H-benzimidazole-7-carboxylate.

USE - (I) are angiotensin II antagonists, and have low toxicity.

ABSTRACTED-PUB-NO:

EP 622077B EQUIVALENT-ABSTRACTS:

Use of benzimidazole derivs. of formula (I), and their salts, for the prophylaxis or treatment of diabetic neuropathy or glomerulonephritis, is new: R1 = H or opt. substd. hydrocarbyl; R2 = opt. esterified carboxyl; R3 = a gp. actually or

potentially capable of forming an anion; X = direct bond or 1 or 2 atom chain; n = 1 or 2; ring A = benzene ring opt. substd. in addn. to R2; Y = bond, -O-, -S(O)m- or -N(R4)-; m = 0 - 2; R4 = H or opt. substd. alkyl.

(I) are pref., e.g. ( plus or minus )-1-(cyclohexyloxycarbonyloxy)ethyl-2--ethoxy-1-((2'-(1H-tetrazol-5-yl)biphenyl-4-yl)methyl)-1H-benzimidazole-7-carboxylate (Ia), and pivaloyloxymethyl-2-ethoxy-1-((2'-(1H-tetrazol-5-yl)biphenyl-4-yl) methyl)-1H-benzimidazole-7-carboxylate.

USE - (I) are angiotensin II antagonists, and have low toxicity.

US 5719173A

Use of benzimidazole derivs. of formula (I), and their salts, for the prophylaxis or treatment of diabetic neuropathy or glomerulonephritis, is new: R1 = H or opt. substd. hydrocarbyl; R2 = opt. esterified carboxyl; R3 = a gp. actually or potentially capable of forming an anion; X = direct bond or 1 or 2 atom chain; n = 1 or 2; ring A = benzene ring opt. substd. in addn. to R2; Y = bond, -O-, -S(O)m- or -N(R4)-; m = 0 - 2; R4 = H or opt. substd. alkyl.

(I) are pref., e.g. ( plus or minus )-1-(cyclohexyloxycarbonyloxy)ethyl-2--ethoxy-1-((2'-(1H-tetrazol-5-yl)biphenyl-4-yl)methyl)-1H-benzimidazole-7-carboxylate (Ia), and pivaloyloxymethyl-2-ethoxy-1-((2'-(1H-tetrazol-5-yl)biphenyl-4-yl) methyl)-1H-benzimidazole-7-carboxylate.

USE - (I) are angiotensin II antagonists, and have low toxicity.

US 5889036A

Use of benzimidazole derivs. of formula (I), and their salts, for the prophylaxis or treatment of diabetic neuropathy or glomerulonephritis, is new: R1 = H or opt. substd. hydrocarbyl; R2 = opt. esterified carboxyl; R3 = a gp. actually or potentially capable of forming an anion; X = direct bond or 1 or 2 atom chain; n = 1 or 2; ring A = benzene ring opt. substd. in addn. to R2; Y = bond, -O-, -S(O)m- or -N(R4)-; m = 0 - 2; R4 = H or opt. substd. alkyl.

(I) are pref., e.g. ( plus or minus )-1-(cyclohexyloxycarbonyloxy)ethyl-2--ethoxy-1-((2'-(1H-tetrazol-5-yl)biphenyl-4-yl)methyl)-1H-benzimidazole-7-carboxylate (Ia), and pivaloyloxymethyl-2-ethoxy-1-((2'-(1H-tetrazol-5-yl)biphenyl-4-yl) methyl)-1H-benzimidazole-7-carboxylate.

USE - (I) are angiotensin II antagonists, and have low toxicity.

US 6040324A

Use of benzimidazole derivs. of formula (I), and their salts, for the prophylaxis or treatment of diabetic neuropathy or glomerulonephritis, is new: R1 = H or opt. substd. hydrocarbyl; R2 = opt. esterified carboxyl; R3 = a gp. actually or potentially capable of forming an anion; X = direct bond or 1 or 2 atom chain; n = 1 or 2; ring A = benzene ring opt. substd. in addn. to R2; Y = bond, -O-, -S(O)m- or -N(R4)-; m = 0 - 2; R4 = H or opt. substd. alkyl.

(I) are pref., e.g. ( plus or minus )-1-(cyclohexyloxycarbonyloxy)ethyl-2--ethoxy-1-((2'-(1H-tetrazol-5-yl)biphenyl-4-yl)methyl)-1H-benzimidazole-7-carboxylate (Ia), and pivaloyloxymethyl-2-ethoxy-1-((2'-(1H-tetrazol-5-yl)biphenyl-4-yl) methyl)-1H-benzimidazole-7-carboxylate.

USE - (I) are angiotensin II antagonists, and have low toxicity.

Full	Title	Citation	Front	Review	Classification	Date	Reference	Claims	KMC	Draw Desc	Clip Img	Image
------	-------	----------	-------	--------	----------------	------	-----------	--------	-----	-----------	----------	-------



68. Document ID: US 6232334 B1, EP 459136 A, NO 9101586 A, AU 9175331 A, CA 2040955 A, FI 9101936 A, HU 57736 T, PT 97451 A, ZA 9102983 A, CN 1055927 A, JP 04364171 A, US 5196444 A, AU 647469 B, US 5328919 A, US 5401764 A, NZ 237949 A, JP 08099960 A, JP 2514282 B2, RU 2052455 C1, EP 459136 B1, IL 97882 A, DE 69123784 E, ES 2095266 T3, NO 9700195 A, NO 300923 B1, HU 213266 B, US 5703110 A, US 5705517 A, CA 2040955 C, NO 302752 B1, BR 1100710 A3, JP 2853611 B2, FI 9802761 A, US 5962491 A, SG 67903 A1, US 6004989 A, MX 190105 B, KR 200541 B1, CN 1147515 A, IE 81396 B

L2: Entry 68 of 69

File: DWPI

May 15, 2001

DERWENT-ACC-NO: 1991-355468

DERWENT-WEEK: 200129

COPYRIGHT 2001 DERWENT INFORMATION LTD

TITLE: New angiotensin II antagonising benzimidazole derivs. - used for treating hypertension, circulatory diseases, e.g. heart failure, strokes, cerebral apoplexy, nephropathy and nephritis

INVENTOR: KATO, T; NAKA, T ; NISHIKAWA, K

PRIORITY-DATA: 1990JP-0413679 (December 24, 1990), 1990JP-0113148 (April 27, 1990), 1990JP-0141942 (May 30, 1990), 1990JP-0208662 (August 6, 1990), 1990JP-0264579 (October 1, 1990)

## PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
US 6232334 B1	May 15, 2001	N/A	000	A61K031/4184
EP 459136 A	December 4, 1991	N/A	070	N/A
NO 9101586 A	October 28, 1991	N/A	000	N/A
AU 9175331 A	November 21, 1991	N/A	000	N/A
CA 2040955 A	October 28, 1991	N/A	000	N/A
FI 9101936 A	October 28, 1991	N/A	000	N/A
HU 57736 T	December 30, 1991	N/A	000	N/A
PT 97451 A	January 31, 1992	N/A	000	N/A
ZA 9102983 A	January 29, 1992	N/A	000	N/A
CN 1055927 A	November 6, 1991	N/A	000	C07D235/24
JP 04364171 A	December 16, 1992	N/A	046	C07D235/26
US 5196444 A	March 23, 1993	N/A	010	C07D257/04
AU 647469 B	March 24, 1994	N/A	000	C07D403/10
US 5328919 A	July 12, 1994	N/A	005	C07D257/04
US 5401764 A	March 28, 1995	N/A	006	C07D403/10
NZ 237949 A	July 26, 1995	N/A	000	C07D235/02
JP 08099960 A	April 16, 1996	N/A	049	C07D235/26
JP 2514282 B2	July 10, 1996	N/A	011	C07D403/12
RU 2052455 C1	January 20, 1996	N/A	051	C07D235/18
EP 459136 B1	December 27, 1996	E	022	C07D235/26
IL 97882 A	November 14, 1996	N/A	000	C07D235/24
DE 69123784 E	February 6, 1997	N/A	000	C07D235/26
ES 2095266 T3	February 16, 1997	N/A	000	C07D235/26
NO 9700195 A	October 28, 1991	N/A	000	C07D403/10
NO 300923 B1	August 18, 1997	N/A	000	C07D403/10
HU 213266 B	April 28, 1997	N/A	000	C07D235/26
US 5703110 A	December 30, 1997	N/A	039	A01N043/50
US 5705517 A	January 6, 1998	N/A	076	C07D403/10
CA 2040955 C	February 3, 1998	N/A	000	C07D403/10
NO 302752 B1	April 20, 1998	N/A	000	C07D403/10
BR 1100710 A3	May 5, 1998	N/A	000	C07D403/10

BR 1100710 A3	May 5, 1998	N/A	000	C07D403/10
JP 2853611 B2	February 3, 1999	N/A	052	C07D235/26
FI 9802761 A	December 21, 1998	N/A	000	C07D000/00
US 5962491 A	October 5, 1999	N/A	000	A61K031/41
SG 67903 A1	October 19, 1999	N/A	000	C07D403/10
US 6004989 A	December 21, 1999	N/A	000	A61K031/41
MX 190105 B	October 21, 1998	N/A	000	C07D235/026
KR 200541 B1	June 15, 1999	N/A	000	C07D235/24
CN 1147515 A	April 16, 1997	N/A	000	C07D403/10
IE 81396 B	November 29, 2000	N/A	000	C07D403/10

A INT-CL (IPC): A01N 43/50; A61K 31/395; A61K 31/41; A61K 31/415; A61K 31/4184; A61K 31/44; A61K 31/445; A61P 9/12; C07D 0/00; C07D 235/02; C07D 235/026; C07D 235/028; C07D 235/06; C07D 235/12; C07D 235/18; C07D 235/24; C07D 235/25; C07D 235/26; C07D 235/28; C07D 235/30; C07D 235/26; C07D 257/04; C07D 257/02; C07D 401/04; C07D 401/10; C07D 401/14; C07D 403/02; C07D 403/04; C07D 403/10; C07D 403/12; C07D 403/14; C07D 405/02; C07D 405/10; C07D 405/12; C07D 405/14; C07D 413/02; C07D 413/04; C07D 413/14; C07F 9/6506; C07D 235/24; C07D 257/04; C07D 403/10; C07D 235/24; C07D 257/04; C07D 309/04; C07D 405/14

ABSTRACTED-PUB-NO: EP 459136A  
BASIC-ABSTRACT:

Benzimidazole derivs. of formula (I) and their salts are new. In (I) A = a benzene ring opt. substd. in addn. to R1; R1 = H or opt. substd. hydrocarbon gp.; R2 = a gp. capable of forming an anion or convertible into an anion; X = a direct bond or a spacer 1-2 atoms long between the phenylene and phenyl gp.; R' = carboxyl, its esters or amides, or a gp. capable of forming an anion or convertible to an anion; Y = -O-, -S(O)m- or -N(R4)-, (where m = 0, 1 or 2 and R4 = H or opt. substd. alkyl); and n = 1 or 2. 33 cpds. are specifically claimed including ethyl-2-ethoxy-1-((2'-(1H-tetrazol-5-yl)biphenyl-4-yl)methyl)benzimidazole-7-carboxylate. Also claimed is a stable crystal of 1-(cyclohexyloxycarbonyloxy) ethyl-2-ethoxy-1-((2'-(1H-tetrazol-5-yl)-biphenyl-4-yl)-methyl)benzimidazole -7-carboxylate.

USE/ADVANTAGE - (I) are angiotensin II antagonists (claimed) and are used for treating hypertension, circulatory diseases such as heart failure (hypertrophy of the heart, cardiac insufficiency and cardiac infarction), strokes, cerebral apoplexy, nephropathy and nephritis. (I) have low toxicity and strongly inhibit the vasoconstrictive and hypertensive actions of antiotensin II. The dose is 1-50 mg/day orally or 1-30 mg/day intravenously.  
ABSTRACTED-PUB-NO:

EP 459136B EQUIVALENT-ABSTRACTS:

2-Ethoxy-1-((2'-(1H-tetrazol-5-yl)biphenyl-4-yl)methyl)benzimidazole-7-carboxylic acid or a pharmaceutically acceptable salt thereof.

US 5196444A

Stable crystals of 1-(cyclohexyloxycarbonyloxy) ethyl 2-ethoxy-1-((2'-(1H-tetrazol-5-yl)-biphenyl-4-yl)methyl)benzimidazole-7-carboxylate are new. Pharmaceutically acceptable salts are also new.

USE/ADVANTAGE - Cpd. has potent angiotensin II antihypertensive activity. Used as therapeutic agents for treating circulatory system diseases, heart diseases, strokes, cerebral apoplexy, nephritis, etc. Dosage is 1-50mg for oral admin. or 1-30mg for intravenous injection per day in a single or divided dose.

US 5328919A

Pivaloyloxymethyl 2-ethoxy -1((2'-(1H-tetrazol-5-yl) biphenyl-4-yl) methyl)benzimidazole-7- carboxylate (I) and its salts are new.

USE/ADVANTAGE - (I) is an angiotensin II antagonist useful for treating circulatory system disorders such as hypertensive diseases, heart diseases (e.g.

hypercardia, heart failure, cardiac infarction), strokes, brain diseases, cerebral apoplexy and nephritis.

US 5401764A

1-Acetoxyethyl 2-ethoxy -1-((2'-(1H-tetrazol-5-yl) bisphenyl- 4-yl)methyl) benzimidazole-7-carboxylate and salts are new.

USE - Compsns. of (I) with carrier, excipient or diluent antagonise angiotensin II and are used to treat hypertension, circulatory system diseases including hypercardia, heart failure, cardiac infarction, strokes, cerebral apoplexy, nephritis, etc. Adult dosage is e.g. 1-50 mg orally, or 1-30 mg intravenously, pref. in divided doses.

US 5703110A

Benzimidazole derivs. of formula (I) and their salts are new. In (I) A = a benzene ring opt. substd. in addn. to R1; R1 = H or opt. substd. hydrocarbon gp.; R2 = a gp. capable of forming an anion or convertible into an anion; X = a direct bond or a spacer 1-2 atoms long between the phenylene and phenyl gp.; R' = carboxyl, its esters or amides, or a gp. capable of forming an anion or convertible to an anion; Y = -O-, -S(O)m- or -N(R4)-, (where m = 0, 1 or 2 and R4 = H or opt. substd. alkyl); and n = 1 or 2. 33 cpds. are specifically claimed including ethyl-2-ethoxy-1-((2'-(1H-tetrazol-5-yl)biphenyl-4-yl)methyl) benzimidazole-7-carboxylate. Also claimed is a stable crystal of 1-(cyclohexyloxy-carbonyloxy) ethyl-2-ethoxy-1-((2'-(1H tetrazol-5-yl)-biphenyl-4-yl)-methyl)benzimidazole -7-carboxylate.

USE/ADVANTAGE - (I) are angiotensin II antagonists (claimed) and are used for treating hypertension, circulatory diseases such as heart failure (hypertrophy of the heart, cardiac insufficiency and cardiac infarction), strokes, cerebral apoplexy, nephropathy and nephritis. (I) have low toxicity and strongly inhibit the vasoconstrictive and hypertensive actions of antiotensin II. The dose is 1-50 mg/day orally or 1-30 mg/day intravenously.

US 5705517A

Benzimidazole derivs. of formula (I) and their salts are new. In (I) A = a benzene ring opt. substd. in addn. to R1; R1 = H or opt. substd. hydrocarbon gp.; R2 = a gp. capable of forming an anion or convertible into an anion; X = a direct bond or a spacer 1-2 atoms long between the phenylene and phenyl gp.; R' = carboxyl, its esters or amides, or a gp. capable of forming an anion or convertible to an anion; Y = -O-, -S(O)m- or -N(R4)-, (where m = 0, 1 or 2 and R4 = H or opt. substd. alkyl); and n = 1 or 2. 33 cpds. are specifically claimed including ethyl-2-ethoxy-1-((2'-(1H-tetrazol-5-yl)biphenyl-4-yl)methyl) benzimidazole-7-carboxylate. Also claimed is a stable crystal of 1-(cyclohexyloxy-carbonyloxy) ethyl-2-ethoxy-1-((2'-(1H tetrazol-5-yl)-biphenyl-4-yl)-methyl)benzimidazole -7-carboxylate.

USE/ADVANTAGE - (I) are angiotensin II antagonists (claimed) and are used for treating hypertension, circulatory diseases such as heart failure (hypertrophy of the heart, cardiac insufficiency and cardiac infarction), strokes, cerebral apoplexy, nephropathy and nephritis. (I) have low toxicity and strongly inhibit the vasoconstrictive and hypertensive actions of antiotensin II. The dose is 1-50 mg/day orally or 1-30 mg/day intravenously. @(70pp)@

US 5962491A

Benzimidazole derivs. of formula (I) and their salts are new. In (I) A = a benzene ring opt. substd. in addn. to R1; R1 = H or opt. substd. hydrocarbon gp.; R2 = a gp. capable of forming an anion or convertible into an anion; X = a direct bond or a spacer 1-2 atoms long between the phenylene and phenyl gp.; R' = carboxyl, its esters or amides, or a gp. capable of forming an anion or convertible to an anion; Y = -O-, -S(O)m- or -N(R4)-, (where m = 0, 1 or 2 and R4 = H or opt. substd. alkyl); and n = 1 or 2. 33 cpds. are specifically claimed including ethyl-2-ethoxy-1-((2'-(1H-tetrazol-5-yl)biphenyl-4-yl)methyl) benzimidazole-7-carboxylate. Also claimed is a stable crystal of 1-(cyclohexyloxy-carbonyloxy) ethyl-2-ethoxy-1-((2'-(1H tetrazol-5-yl)-biphenyl-4-yl)-methyl)benzimidazole -7-carboxylate.

USE/ADVANTAGE - (I) are angiotensin II antagonists (claimed) and are used for treating hypertension, circulatory diseases such as heart failure (hypertrophy of the heart, cardiac insufficiency and cardiac infarction), strokes, cerebral apoplexy, nephropathy and nephritis. (I) have low toxicity and strongly inhibit the vasoconstrictive and hypertensive actions of antiotensin II. The dose is 1-50 mg/day orally or 1-30 mg/day intravenously.

US 6004989A

Benzimidazole derivs. of formula (I) and their salts are new. In (I) A = a benzene ring opt. substd. in addn. to R1; R1 = H or opt. substd. hydrocarbon gp.; R2 = a gp. capable of forming an anion or convertible into an anion; X = a direct bond or a spacer 1-2 atoms long between the phenylene and phenyl gp.; R' = carboxyl, its esters or amides, or a gp. capable of forming an anion or convertible to an anion; Y = -O-, -S(O)m- or -N(R4)-, (where m = 0, 1 or 2 and R4 = H or opt. substd. alkyl); and n = 1 or 2. 33 cpds. are specifically claimed including ethyl-2-ethoxy-1-((2'-(1H-tetrazol-5-yl)biphenyl-4-yl)methyl)benzimidazole-7-carboxylate. Also claimed is a stable crystal of 1-(cyclohexyloxycarbonyloxy) ethyl-2-ethoxy-1-((2'-(1H tetrazol-5-yl)-biphenyl-4-yl)-methyl)benzimidazole -7-carboxylate.

USE/ADVANTAGE - (I) are angiotensin II antagonists (claimed) and are used for treating hypertension, circulatory diseases such as heart failure (hypertrophy of the heart, cardiac insufficiency and cardiac infarction), strokes, cerebral apoplexy, nephropathy and nephritis. (I) have low toxicity and strongly inhibit the vasoconstrictive and hypertensive actions of antiotensin II. The dose is 1-50 mg/day orally or 1-30 mg/day intravenously.

US 6232334B

Benzimidazole derivs. of formula (I) and their salts are new. In (I) A = a benzene ring opt. substd. in addn. to R1; R1 = H or opt. substd. hydrocarbon gp.; R2 = a gp. capable of forming an anion or convertible into an anion; X = a direct bond or a spacer 1-2 atoms long between the phenylene and phenyl gp.; R' = carboxyl, its esters or amides, or a gp. capable of forming an anion or convertible to an anion; Y = -O-, -S(O)m- or -N(R4)-, (where m = 0, 1 or 2 and R4 = H or opt. substd. alkyl); and n = 1 or 2. 33 cpds. are specifically claimed including ethyl-2-ethoxy-1-((2'-(1H-tetrazol-5-yl)biphenyl-4-yl)methyl)benzimidazole-7-carboxylate. Also claimed is a stable crystal of 1-(cyclohexyloxycarbonyloxy) ethyl-2-ethoxy-1-((2'-(1H tetrazol-5-yl)-biphenyl-4-yl)-methyl)benzimidazole -7-carboxylate.

USE/ADVANTAGE - (I) are angiotensin II antagonists (claimed) and are used for treating hypertension, circulatory diseases such as heart failure (hypertrophy of the heart, cardiac insufficiency and cardiac infarction), strokes, cerebral apoplexy, nephropathy and nephritis. (I) have low toxicity and strongly inhibit the vasoconstrictive and hypertensive actions of antiotensin II. The dose is 1-50 mg/day orally or 1-30 mg/day intravenously.

Full	Title	Citation	Front	Review	Classification	Date	Reference	Claims	KWC	Draw Desc	Clip Img	Image
------	-------	----------	-------	--------	----------------	------	-----------	--------	-----	-----------	----------	-------

☐ 69. Document ID: JP 3099241 B2, EP 425921 A, AU 9064612 A, NO 9004569 A, CA 2028302 A, HU 55384 T, FI 9005215 A, PT 95655 A, CN 1051355 A, JP 04009373 A, US 5128356 A, ZA 9008300 A, US 5250554 A, AU 649418 B, NO 177304 B, RU 2023713 C1, EP 425921 B1, DE 69021502 E, FI 9504554 A, IE 67956 B, RU 2057126 C1, HU 74463 T, IL 95975 A, IE 74902 B, PT 101875 A, IL 115437 A, FI 102068 B1, KR 160771 B1, RU 2144022 C1

L2: Entry 69 of 69

File: DWPI

Oct 16, 2000

DERWENT-ACC-NO: 1991-134394  
DERWENT-WEEK: 200054

COPYRIGHT 2001 DERWENT INFORMATION LTD

TITLE: New 2-alkyl-1-((bi:phenyl-4-yl)-methyl) benzimidazole derivs. - useful as angiotensin II antagonists to treat hypertension, heart failure and cerebral stroke

INVENTOR: NAKA, T; NISHIKAWA, K ; NARA, T

PRIORITY-DATA: 1990JP-0113145 (April 27, 1990), 1989JP-0277385 (October 24, 1989), 1989JP-0328974 (December 18, 1989), 1990JP-0005147 (January 11, 1990), 1990JP-0091675 (April 5, 1990), 1990JP-0097324 (April 11, 1990), 1990JP-0286299 (October 23, 1990), 1995RU-0118878 (October 30, 1995)

## PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
JP 3099241 B2	October 16, 2000	N/A	046	C07D235/08
EP 425921 A	May 8, 1991	N/A	000	N/A
AU 9064612 A	May 2, 1991	N/A	000	N/A
NO 9004569 A	April 25, 1991	N/A	000	N/A
CA 2028302 A	April 25, 1991	N/A	000	N/A
HU 55384 T	May 28, 1991	N/A	000	N/A
FI 9005215 A	April 25, 1991	N/A	000	N/A
PT 95655 A	September 13, 1991	N/A	000	N/A
CN 1051355 A	May 15, 1991	N/A	000	N/A
JP 04009373 A	January 14, 1992	N/A	000	N/A
US 5128356 A	July 7, 1992	N/A	041	C07D403/10
ZA 9008300 A	June 24, 1992	N/A	123	C07D000/00
US 5250554 A	October 5, 1993	N/A	039	A61K031/415
AU 649418 B	May 26, 1994	N/A	000	C07D403/10
NO 177304 B	May 15, 1995	N/A	000	C07D403/10
RU 2023713 C1	November 30, 1994	N/A	044	C07D235/06
EP 425921 B1	August 9, 1995	E	010	C07D235/08
DE 69021502 E	September 14, 1995	N/A	000	C07D235/08
FI 9504554 A	September 26, 1995	N/A	000	C07C000/00
IE 67956 B	May 15, 1996	N/A	000	A61K031/415
RU 2057126 C1	March 27, 1996	N/A	053	C07D235/08
HU 74463 T	December 30, 1996	N/A	000	C07D235/04
IL 95975 A	June 10, 1997	N/A	000	C07D235/08
IE 74902 B	August 13, 1997	N/A	000	C07C255/58
PT 101875 A	December 31, 1997	N/A	000	C07D235/08
IL 115437 A	June 15, 1998	N/A	000	C07C229/56
FI 102068 B1	October 15, 1998	N/A	000	C07D403/10
KR 160771 B1	December 1, 1998	N/A	000	C07D235/08
RU 2144022 C1	January 10, 2000	N/A	000	C07C229/52

B1 INT-CL (IPC): A61K 31/135; A61K 31/19; A61K 31/24; A61K 31/275; A61K 31/34; A61K 31/41; A61K 31/415; A61K 31/4184; A61K 31/535; A61K 31/675; A61P 9/00; A61P 9/10; A61P 9/12; A61P 13/12; C07C 0/00; C07C 227/14; C07C 229/52 ; C07C 229/56; C07C 229/60; C07C 229/62; C07C 255/50; C07C 255/54; C07C 255/58; C07C 255/60; C07C 309/28; C07C 309/41; C07C 309/46; C07C 309/51; C07C 311/09; C07C 323/13; C07C 323/22; C07C 323/36; C07C 323/37; C07C 323/41; C07D 0/00; C07D 235/04; C07D 235/06; C07D 235/08; C07D 235/10; C07D 235/12; C07D 235/14; C07D 235/24; C07D 257/02; C07D 317/34; C07D 401/14; C07D 403/02; C07D 403/10; C07D 405/04; C07D 405/10; C07D 405/14; C07D 413/14; C07F 9/141; C07F 9/64; C07F 9/6506

ABSTRACTED-PUB-NO: EP 425921A  
BASIC-ABSTRACT:

2-alkyl-1-((biphenyl-4-yl)methyl) benzinidezoles of formula (I), and their salts, are new; R1 = alkyl (opt. substd.); R2, R3 = gps. capable of forming an anion or

can be changed to such a gp.; X = linkage, not more than 2 atoms; and Ring A opt. has further substituents. R1 = 1-8C alkyl, opt.

substd. by OH, halogen, NH<sub>2</sub>, mono- or di- (1-4C) alkybumino, 1-4C alkoxy or 1-4C alkylthio; R<sub>2</sub> = (CH<sub>2</sub>)<sub>n</sub> COD, CN, tetrazolyl (opt. substd. by 1-4C alkyl, 2-5C alkanoyl or benzoyl), PO<sub>3</sub>H<sub>2</sub>, SO<sub>3</sub>H, phenolic OH, 1-6C alkoxy (opt. substd. by E), NHSO<sub>2</sub>CF<sub>3</sub>, or 1-3C alkyl (opt. substd. by OH, NH<sub>2</sub>, mono- or di- (1-4C amino); D = H, OH, NH<sub>2</sub>, mono- or di- (1-4C) alkylamino, halogen, or 1-6C alkoxy (opt. substd. by E); E = OH, NH<sub>2</sub>, mono- or di- (1-4C) alkylamino, halogen, 2-6C alkanoyloxy, 1-6C alkoxy, 1-6C alkylthio, or 1-6C alkoxycarbonyloxy; and n = 0 or 1. Ring A other substituents are halogen, NO<sub>2</sub>, CN, NH<sub>2</sub>, mono- or di- (1-4C) alkylamino, N-arylamino, alicyclic amino, YR, 1-4C alkyl, 1-4C alkoxy, COOH, COOMe or COOEt. Y = 'bonding hand', O, S, or CO; R = H, alkoxy (opt. substd.) NH<sub>2</sub> (opt. substd.) halogen or OH and X = 1-4C alkylene, CO, O, S, NH, CONH, OCH<sub>2</sub>, SCH<sub>2</sub> or CH = CH. USE - (I) have a strong antagonism to angiotensin II (AII) receptor, and when admin. orally, show AII antagonism and hypotensive action, unlike 5 and/or 6 substd. benzimidazoles. They are also useful for cardiovascular diseases such as heart failure and cerebral stroke. Dosage is 1-50 mg, p.o. or 1-30 mg i.v.  
ABSTRACTED-PUB-NO:

#### EP 425921B EQUIVALENT-ABSTRACTS:

A compound of the formula (I): wherein R<sub>1</sub> is an optionally substituted alkyl group; R<sub>2</sub> is (i) a group of formula -(CH<sub>2</sub>)<sub>n</sub>-CO-D wherein D is hydrogen, hydroxyl group, amino, N-lower(C1-4) alkylamino, N,N-dilower(C1-4) alkylamino or lower (C1-6) alkoxy group whose alkyl portion may be substituted by hydroxyl group, amino, halogen, lower(C2-6) alkanoyloxy, lower(C1-6) alkoxy, lower(C1-6) alkylthio, lower(C1-6) alkoxycarbonyloxy or 5-methyl-2-oxo-1,3-dioxol-en-4-yl and n is an integer of 0 to 1, or (ii) tetrazolyl which may be protected by lower(C1-4) alkyl, lower(C2-5) alkanoyl or benzoyl; R<sub>3</sub> is independently from R<sub>2</sub> a group capable of forming anion or a group which can be changed therinto; ring A is benzene ring optionally having, besides the group shown by R<sub>2</sub>, further substituents; and X shows linkage of phenylene group and phenyl group directly or through a spacer whose atomic length is not more than 2; or a salt thereof, provided that when R<sub>1</sub> is ethyl, propyl or butyl, R<sub>3</sub> is 1H-tetrazol-5-yl, ring A is benzene ring having no substituent other than R<sub>2</sub>; and X shows linkage of phenylene group and phenyl group directly; then R<sub>2</sub> may be 1-(cyclohexyloxycarbonyloxy)ethylox-ycarbonyl.

US 5128356A

New benzimidazole derivs of formula (I) or its pharmaceutically acceptable salt is claimed. In (I) where R<sub>1</sub> is propyl or butyl; R<sub>2</sub> is carboxyl, methoxycarbonyl, pivaloyloxymethoxycarbonyl, or 1-(cydohexyloxycarbonylox-y) ethoxycarbonyl; R<sub>3</sub> is tetrazolyl; and R<sub>1</sub> is H.

A pref. cpd is 2-butyl-1-((2'-(1H-tetrazol-5-yl) biphenyl-4-yl) methyl)-benzimidazole-7-carboxylic acid.

USE - (I) exhibit antagonistic actions to Angidensin II and is therefore used to treat cardiovascular diseases such as heart failure and cerebral stroke.

US 5250554A

Benzimidazole derivs. of formula (I) and their salts are new. In (I) R<sub>1</sub> is 2-5C alkyl opt. substd by OH, NH<sub>2</sub>, monoordi 1-4C alkylamino, halo, 1-4C alkylthio or 1-4C alkoxy; R<sub>2</sub> is COD'; D1 is OH or 1-4C alkoxy opt. substd. by OH, NH<sub>2</sub>, halo, 2-6C alkanoyloxy, 1-6C alkoxy, 1-6C alkylthio or 1-6C alkoxycarbonyl; R<sub>3</sub> is COOH or tetrazolyl both opt. substd. by 1-4C alkyl, 2-5C alkanoyl or benzoyl; R<sub>1</sub> is H, 1-4C alkyl or halo; and X is a bond, CO, O, S NH, CONH, OCH<sub>2</sub> or CH=CH. A specifically claimed cpd. is methyl-2-butyl-1-((2'-(1H-tetrazol-5-yl) biphenyl-4-yl)methyl)-benzimidazole-7-carboxylate.

USE/ADVANTAGE - (I) are angiotensin II antagonists used to treat cardiovascular diseases eg., hypertensive disorders, cardiac diseases and cerebral apoplexy.

Full	Title	Citation	Front	Review	Classification	Date	Reference	Claims	KWIC	Draw Desc	Clip Img	Image
------	-------	----------	-------	--------	----------------	------	-----------	--------	------	-----------	----------	-------

---

Generate Collection

Term	Documents
ANGIOTENSIN.DWPI,EPAB,JPAB,USPT.	9374
ANGIOTENSINS.DWPI,EPAB,JPAB,USPT.	124
II.DWPI,EPAB,JPAB,USPT.	1297518
IIS.DWPI,EPAB,JPAB,USPT.	849
(1 AND (ANGIOTENSIN ADJ II)).USPT,JPAB,EPAB,DWPI.	69

---

Display

25

Documents, starting with Document:

69

Display Format: REV

Change Format

**WEST**☐ Generate Collection

L2: Entry 58 of 69

File: USPT

Mar 23, 1993

DOCUMENT-IDENTIFIER: US 5196444 A

TITLE: 1-(cyclohexyloxycarbonyloxy)ethyl

2-ethoxy-1-[[2'-(1H-tetrazol-5-yl)biphenyl-4-yl)methyl]benzimidazole-7-carboxylate and compositions and methods of pharmaceutical use thereof

ABPL:

1-(cyclohexyloxycarbonyloxy)ethyl

2-ethoxy-1-[[2'-(1H-tetrazol-5-yl)biphenyl-4-yl)methyl]benzimidazole-7-carboxylate or a pharmaceutically acceptable salt thereof has potent angiotensin II antihypertensive activity, thus being useful as therapeutic agents for treating circulatory system diseases such as hypertensive diseases, heart diseases (e.g. hypercardia, heart failure, cardiac infarction, etc.), strokes, cerebral apoplexy, nephritis, etc.

BSPR:

In a first aspect of the invention there is provided

1-(cyclohexyloxycarbonyloxy)ethyl

2-ethoxy-1-[[2'-(1H-tetrazol-5-yl)biphenyl-4-yl)methyl]benzimidazole-7-carboxylate, including certain stable forms as well as pharmaceutically acceptable salts, which have

BSPR:

Potent anti-hypertensive activity and strong angiotensin II antagonistic action, which are of practical value in clinical use as therapeutic agents.

BSPR:

These compounds possess highly angiotensin II receptor antagonistic activity as well as exerting strong oral and long-lasting angiotensin II antagonistic and anti-hypertensive action.

BSPR:

These compounds are unexpectedly potent angiotensin II antagonists which are of value in the treatment of circulatory system diseases such as hypertensive diseases, heart diseases, strokes, nephritis, etc.

BSPR:

Another aspect of the present invention relates to pharmaceutical compositions comprising an effective amount of the 1-(cyclohexyloxycarbonyloxy)ethyl 2-ethoxy-1-[[2'-(1H-tetrazol-5-yl)biphenyl-4-yl)methyl]benzimidazole-7-carboxylate and a pharmaceutically acceptable carrier useful in treating circulatory system diseases such as hypertensive diseases, heart diseases, strokes, renal failure, nephritis, etc., and processes for preparing such compounds and compositions.

BSPR:

Still another aspect of the present invention relates to a method for treating said circulatory system diseases of animals, which comprises administering an effective amount of the 1-(cyclohexyloxycarbonyloxy)ethyl 2-ethoxy-1-[[2'-(1H-tetrazol-5-yl)biphenyl-4-yl)methyl]benzimidazole-7-carboxylate or the pharmaceutical composition thereof to said animal.

BSPR:

In a still further aspect of the invention, a method is provided for producing 1-(cyclohexyloxycarbonyloxy)ethyl 2-ethoxy-1-[[2'-(1H-tetrazol-5-yl)biphenyl-4-yl)methyl]benzimidazole-7-carboxylate which comprises contacting cyclohexyl 1-iodoethyl carbonate with



2-ethoxy-1-[[2'-(1H-tetrazol-5-yl)biphenyl-4-yl]methyl]benzimidazole-7-carboxylic acid under conditions permitting esterification.

## DEPR:

The present invention provides 1-(cyclohexyloxycarbonyloxy)ethyl 2-ethoxy-1-[[2'-(1H-tetrazol-5-yl)biphenyl-4-yl]methyl]benzimidazole-7-carboxylate and the pharmaceutically acceptable salts thereof, which possess strong angiotensin II antagonist activity and are of value in the treatment of circulatory diseases such as hypertensive diseases, heart diseases, strokes, cerebral diseases, nephritis, etc., pharmaceutical compositions comprising an effective amount of 1-(cyclohexyloxycarbonyloxy)ethyl 2-ethoxy-1-[[2'-(1H-tetrazol-5-yl)biphenyl-4-yl]methyl]benzimidazole-7-carboxylate and a pharmaceutically acceptable carrier useful in treating said circulatory diseases, and processes for preparing such compounds and compositions.

## DEPR:

Pharmaceutically acceptable salts of 1-(cyclohexyloxycarbonyloxy)ethyl 2-ethoxy-1-[[2'-(1H-tetrazol-5-yl)biphenyl-4-yl]methyl]benzimidazole-7-carboxylate can be formed as salts with non-toxic, physiologically or pharmaceutically acceptable acids or bases, for example salts with an inorganic acid such as hydrochloride, sulfate or nitrate, and, depending on compounds, salts with an organic acid such as acetate, oxalate, succinate or maleate, salts with an alkali metal such as sodium salt or potassium salt, or salts with an alkaline earth metal such as calcium salt.

## DEPR:

The compounds and the salts thereof thus produced are less toxic, strongly inhibit the vasoconstrictive and hypertensive actions of angiotensin II, exert a hypotensive effect in animals, in particular mammals (e.g. human, dog, rabbit, rat, etc.), and therefore they are useful as therapeutics for not only hypertension but also circulatory diseases such as heart failure (hypertrophy of the heart, cardiac insufficiency, cardiac infarction or the like), strokes, cerebral apoplexy, nephropathy and nephritis. 1-(cyclohexyloxycarbonyloxy)ethyl 2-ethoxy-1-[[2'-(1H-tetrazol-5-yl)biphenyl-4-yl]methyl]benzimidazole-7-carboxylate and salts thereof according to the present invention strongly inhibit vasoconstriction and hypertension derived by angiotensin II and therefore possess potent anti-hypertensive activity in animals, more specifically mammal animals (e.g. humans, dogs, pigs, rabbits, rats, etc.). Further, 1-(cyclohexyloxycarbonyloxy)ethyl 2-ethoxy-1-[[2'-(1H-tetrazol-5-yl)biphenyl-4-yl]methyl]benzimidazole-7-carboxylate and salts thereof according to the present invention are of quite low toxicity and clinically useful in treating not only hypertension but also circulatory system diseases such as heart and brain diseases, strokes, renal failures, nephritis and the like.

## DEPR:

For therapeutic use, 1-(cyclohexyloxycarbonyloxy)ethyl 2-ethoxy-1-[[2'-(1H-tetrazol-5-yl)biphenyl-4-yl]methyl]benzimidazole-7-carboxylate and salts thereof can be orally, parenterally, by inhalation spray, rectally, or topically administered as pharmaceutical compositions or formulations (e.g. powders, granules, tablets, pills, capsules, injections, syrups, emulsions, elixirs, suspensions, solutions and the like) comprising at least one such compound alone or in admixture with pharmaceutically acceptable carriers, adjuvants, vehicles, excipients and/or diluents. The pharmaceutical compositions can be formulated in accordance with conventional methods. The term parenteral as used herein includes subcutaneous injections, intravenous, intramuscular, intraperitoneal injections, or infusion techniques. Injectable preparations, for example, sterile injectable aqueous or oleaginous suspensions may be formulated according to the known art using suitable dispersing or wetting agents and suspending agents. The sterile injectable preparation may also be a sterile injectable solution or suspension in a non-toxic parenterally acceptable diluent or solvent, for example, as a solution in water. Among the acceptable vehicles or solvents that may be employed are water, Ringer's solution, and isotonic sodium chloride solution. In addition, sterile, fixed oils are conventionally employed as a solvent or suspending medium. For this purpose any bland fixed oil or fatty acid may be employed including natural, synthetic, or semi-synthetic fatty oils or acids, and natural, synthetic, or semi-synthetic mono-, di-, or triglycerides.

## DEPR:

When 1-(cyclohexyloxycarbonyloxy)ethyl

2-ethoxy-1-[[2'-(1H-tetrazol-5-yl)biphenyl-4-yl]methyl]-benzimidazole-7-carboxylate of the present invention is used as a therapeutic agent for circulatory failures such as hypertension, heart diseases, strokes, kidney diseases, etc., it can be used in accordance with, for example, the following formulations.

## DEPR:

1-(Cyclohexyloxycarbonyloxy)ethyl

2-ethoxy-1-[[2'-(1H-tetrazol-5-yl)biphenyl-4-yl]methyl]benzimidazole-7-carboxylate is usually purified by column chromatography on silica gel and the eluted fraction is concentrated to dryness to give amorphous powders. The powder is unstable by heat and impractical in production. For solving this problem, the present inventors made extensive experiments on crystallization of the subject compound and discovered C-type crystalline form. The C-type crystal is unexpectedly stable by heat and quite useful for production. The C-type crystal of the title compound has approximately the following lattice spacings:

## DEPR:

The C-type crystal of

1-(cyclohexyloxycarbonyloxy)ethyl-2-ethoxy-1-[[2'-(1H-tetrazol-5-yl)biphenyl-4-yl]methyl]-benzimidazole-7-carboxylate has advantages, for example;

## DEPR:

An experiment of inhibition on the binding of angiotensin II (AII) to AII receptor was conducted by modifying the method of Douglas et al. [Endocrinology, 102, 685-696 (1978)]. An AII receptor membrane fraction was prepared from bovine adrenal cortex.

## DEPC:

1-(Cyclohexyloxycarbonyloxy)ethyl

2-ethoxy-1-[[2'-(1H-tetrazol-5-yl)biphenyl-4-yl]methyl]benzimidazole-7-carboxylate

## DEPC:

Stable C-type crystalline 1-(cyclohexyloxycarbonyloxy)ethyl

2-ethoxy-1-[[2'-(1H-tetrazol-5-yl)biphenyl-4-yl]methyl]-benzimidazole-7-carboxylate and preparation thereof

## DEPC:

Inhibition of binding of angiotensin II to angiotensin receptor

## DETL:

## 1. Capsules

(1) 1-(cyclohexyloxycarbonyloxy)ethyl  
2-ethoxy-1-[[2'-(1H-tetrazol-5-yl)biphenyl-4-yl]methyl]  
benzimidazole-7-carboxylate (2) lactose 90 mg (3) fine crystalline cellulose 70 mg (4) magnesium stearate 10 mg one capsule 180 mg

## DETL:

## 2. Tablets

(1) 1-(cyclohexyloxycarbonyloxy)ethyl  
2-ethoxy-1-[[2'-(1H-tetrazol-5-yl)biphenyl-4-yl]methyl]  
benzimidazole-7-carboxylate (2) lactose 35 mg (3) corn starch 150 mg (4) fine crystalline cellulose 30 mg (5) magnesium stearate 5 mg one tablet 230 mg

## CLPR:

1. A stable crystal of 1-(cyclohexyloxycarbonyloxy)ethyl

2-ethoxy-1-[[2'-(1H-tetrazol-5-yl)-biphenyl-4-yl]methyl]benzimidazole-7-carboxylate.

## CLPR:

3. A pharmaceutical composition for antagonizing angiotensin II which comprises a therapeutically effective amount of 1-(cyclohexyloxycarbonyloxy)ethyl

2-ethoxy-1-[[2'-(1H-tetrazol-5-yl)biphenyl-4-yl]methyl]benzimidazole-7-carboxylate or a pharmaceutically acceptable salt thereof in admixture with a

pharmaceutically acceptable carrier, excipient or diluent therefor.

CLPR:

4. A pharmaceutical composition for antagonizing angiotensin II which comprises a therapeutically effective amount of a crystal according to claim 1 in admixture with a pharmaceutically acceptable carrier, excipient or diluent therefor.

CLPR:

5. A pharmaceutical composition for antagonizing angiotensin II which comprises a therapeutically effective amount of a crystal according to claim 2 in admixture with a pharmaceutically acceptable carrier, excipient or diluent therefor.

CLPR:

6. A method for antagonizing angiotensin II in a mammal which comprises administering to said mammal a therapeutically effective amount of 1-(cyclohexyloxycarbonyloxy)ethyl 2-ethoxy-1-[[2'-(1H-tetrazol-5-yl)biphenyl-4-yl)methyl]benzimidazole-7-carboxylate or a pharmaceutically acceptable salt thereof.

CLPR:

7. A method for antagonizing angiotensin II in a mammal which comprises administering to said mammal a therapeutically effective amount of a crystal according to claim 1.

CLPR:

8. A method for antagonizing angiotensin II in a mammal which comprises administering to said mammal a therapeutically effective amount of a crystal according to claim 2.

CLPR:

9. 1-(Cyclohexyloxycarbonyloxy)ethyl 2-ethoxy-1-[[2'-(1H-tetrazol-5-yl)biphenyl-4-yl)methyl]benzimidazole-7-carboxylate or a pharmaceutically acceptable salt thereof.

**PALM INTRANET**

Day : Wednesday

Date: 7/18/2001

Time: 11:16:59

**Application Number Information**Serial Number : **08/351011** **Order This File Assignments**Filing Date : **12/07/1994**Application Received : **00/00/0000**Patent Number : **5721263**Issue Date : **02/24/1998**Date of Abandonment : **00/00/0000**Attorney Docket Number :  
**87147198TACH**Status : **150 / PATENTED FILE**Location : **9200/FILE REPOSITORY (FRANCONIA)**Charge to Location : **/None**Charge to Name : **No Charge to Name**Station location : **FRANCONIA**

Title of Invention :

**PHARMACEUTICAL COMPOSITION FOR ANGIOTENSIN II-MEDIATED DISEASES**Examiner Number : **71300/LAMBKIN, DEBORAH C**Group Art Unit : **1613**Class/Subclass : **514/381.000**Lost Case : **NO**

Interference Number :

Unmatched Petition : **NO**L&R Code : **01**Status Date : **02/11/1998**Location Date : **10/19/1999****Appln  
Info**[Contents](#)[Details](#)[Atty/Agent Info](#)[Continuity Data](#)[Foreign Data](#)[Inventors](#)Search Another: Application#   or Patent#  

(To Go BACK Use BACK Button on Your BROWSER Tool Bar)

Back to [|| PALM || ASSIGNMENT || OASIS ||](#) Home Page

## PALM INTRANET

Day : Wednesday

Date: 7/18/2001

Time: 11:13:39

## Content Information for 08/254541

Search Another: Application#  Search or Patent#  Search

Appln Info	Contents	Details	Atty/Agent Info	Continuity Data	Foreign Data	Inventors
------------	----------	---------	-----------------	-----------------	--------------	-----------

Num	Type	Date	Code	Contents Description
14	O	11/28/1995	MAIL	MAIL DATE OF OFFICE ACTION
13	O	11/27/1995	ABN2	COUNT DATE-ABANDONMENT FOR FAILURE TO RESPO
12	O	03/22/1995	MAIL	MAIL DATE OF OFFICE ACTION
11	F	03/21/1995	CTNF	COUNT DATE-NON-FINAL ACTION; IF TYPE F-1ST ACTIC FAOM; IF TYPE O-ALL OTHER ACTIONS
10	I	01/12/1995	C AD	CORRESPONDENCE ADDRESS CHANGE - ONLY P/E
9	I	01/12/1995	PA..	CHANGE IN POWER OF ATTORNEY (MAY INCLUDE COR POWER) P/E
8	I	01/12/1995	M844	PRIOR ART CITATION FILED P/E
7	I	09/29/1994	M844	PRIOR ART CITATION FILED P/E
6	I	09/29/1994	RQPR	REQUEST FOR FOREIGN PRIORITY (PRIORITY PAPERS M
5	I	09/06/1994	M844	PRIOR ART CITATION FILED P/E
4	D	08/29/1994	DOCK	DATE CASE WAS DOCKETED
3	D	07/14/1994	DOCK	DATE CASE WAS DOCKETED
2	I	06/06/1994	M844	PRIOR ART CITATION FILED P/E
1	I	07/07/1994	FILM	MICROFILM RECORD CAPTURED OF APPLICATION

Appln Info	Contents	Details	Atty/Agent Info	Continuity Data	Foreign Data	Inventors
------------	----------	---------	-----------------	-----------------	--------------	-----------

(To Go BACK Use BACK Button on Your BROWSER Tool Bar)

Back to || [PALM](#) || [ASSIGNMENT](#) || [OASIS](#) || Home Page

## PALM INTRANET

Day : Wednesday

Date: 7/18/2001

Time: 11:14:13

# Continuity Information for 08/254541

**Parent Data**

No Parent Data

**Child Data**08351011 is a continuation in part of 0825454108883040 is a division of 0835101109287167 is a division of 0888304009563855 is a continuation of 0928716709758355 is a division of 0825454109783579 is a division of 09563855[Appln Info](#)[Contents](#)[Details](#)[Atty/Agent Info](#)[Continuity  
Data](#)[Foreign Data](#)[Inventors](#)[A](#)

Search Another: Application#

or Patent#

(To Go BACK Use BACK Button on Your BROWSER Tool Bar)

Back to || [PALM](#) || [ASSIGNMENT](#) || [OASIS](#) || Home Page